

Abstract of the Disclosure

The present invention is drawn to an electrically "closed" method and apparatus for transmitting and receiving data signals over a high voltage power line. Inductive coupling is employed for coupling and decoupling the data signal directly on to and off of a single power line wire. An exemplary device includes a high frequency inductive coupling toroid for data signals, a second (50-60Hz) inductive coupling toroid for providing power, signal conditioning electronics for the receive and transmit signal, a fiber optics interface for electrical isolation purposes, and a weather-proof enclosure. In a preferred embodiment, the toroids are hinged for ease of installation on a power line. A pair of such couplings on either side of a fiber-optic isolator can be used to bridge transformers.

1000 900 800 700 600 500 400 300 200 100 0